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Trends in Corporate Education and Training

by Seymour Lusterman

A Research Report from The Conference Board

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Highlights

Education and training programs have changed significantly during the past five years in most large U.S. corporations—in their aims, scope, resource use, or organization, and often in all of these ways. Rapid technological change and the adoption by many companies of new strategies—in response to heightened global competition, deregulation, and other changes in the business environment—have imposed new skills and knowledge needs. Companies are also trying to achieve greater competitive strength by enhancing the quality and productivity of their people.

A larger proportion of employees in all major job categories are now involved each year in formal training than were five years ago. Growth in rates of participation has been highest for managers—including supervisors—and for professionals, sales and marketing people.

While diminished payrolls and earnings have compelled some companies to reduce staff, most report that the number of professionals engaged in training has increased. More use is also being made of line managers and other nonprofessionals, as well as of outside training resources.

Growth—in employee participation in company-sponsored training, in staff size, and in the use of other resources—was particularly prevalent during the past five years among financial institutions.

Corporate leaders are said to be commited to reducing or containing education and training costs even as they seek more from that function. More attention is now being paid to tying training programs to companies' strategic goals. The needs of departments and individuals are increasingly determined by joint trainer-manager explorations and performance-appraisal procedures.

About This Report

This report is based on information provided by 218 companies. In-depth interviews were conducted with education, training and development executives in 46 of these firms; 184 responded to a questionnaire mailed to *Fortune* 500 industrial and service companies. Thirty-four of the field interviews were at companies that did not take part in the survey.

New technologies—video, computer-aided instruction, interactive video, and satellite broadcasting—are having important effects on the training function. They are providing such benefits as increased instructional effectiveness, training paced to individual needs, and the ability to train individuals, as needed, rather than in groups. They also offer greater opportunity for centralized program development and, therefore, control of content.

In striving for improved and cost-effective education, training and development, companies are strengthening and widening the role of corporate training departments—and are creating such functions where they did not exist. Corporate departments are becoming better equipped to conduct management-education programs, to carry out top management's communications and indoctrination goals within the organization, and to develop programs for skills needs shared by operating units. They are also beginning to play a more active role—not only in support and coordination but also in oversight of training activities throughout the company. Line units are being given more responsibility for training needs specific to their operations.

Why This Report

Education in Industry, the first systematic inquiry ever undertaken into the scope and character of corporate education, training and development activities, was published by The Conference Board in 1977. In a changed competitive environment, the contribution of company personnel now looms larger than ever in the eyes of most corporate leaders as a key to business vitality and growth.

The present study explores the kinds of changes that major firms have initiated since 1977—with particular emphasis on change during the past five years—and the factors that have prompted them. The study suggests approaches and possible models for corporate managers concerned with these matters.

The Conference Board is grateful to the Student Loan Marketing Association for its generous support of this project. We are grateful, too, to the many corporate executives who have shared their ideas with us.

JAMES T. MILLS
President

Chapter 1

Changes in Needs and Directions

EDUCATION AND TRAINING programs have changed significantly in most large U.S. corporations— in their aims, scope, resource use, or organization, and often in all of these ways—during the past five years. To begin with, employees have had to acquire many new competencies during this half decade—managers no less than plant operators, clerks and technicians. One reason for this has been the rapid introduction of new technologies. "Technological change," a Xerox executive says, "is the main force now driving education and training in our company. One of our major challenges is keeping our people at the leading edge." General Electric's training manager comments: "Technologies are changing so fast that adapting to them is taking a bigger share of the training dollar."

The second major influence on changes in training has been the adoption by many companies of new strategies and goals—responses to heightened global competition, deregulation, and other changes in the business environment. These often call for attitudinal changes as well as for new skills and knowledge. Thus, a bank executive notes "enormous change" in his company, "from a situation in which the customer came to us to one requiring initiative, innovation and risk taking. We're trying to shift the ways of thinking and acting of an entire organization." Training in a steel company, one of its officials reports, has been put at the service of "an organized effort to change the company's leadership style from a bureaucratic approach to a more participative and innovative approach, with clearly understood goals and objectives, and greater employee involvement and commitment." Executives at other firms also report a strong new stress on the development of competencies—entrepreneurial, marketing and others—that entail a blend of skill and knowledge; that are, in effect, new ways of thinking.

More Support at the Top

The trend among top executives toward increased support for training among top executives grows, in large part, out of their awareness of these new needs. But often other factors are involved as well. In some cases, greater interest in training is a response to significant growth in company size and resources; in others, enhanced respect for the potential benefits of education and training based on personal experience. "Like many others in the rising generation of senior managers, our new president has been through a variety of formal training experiences himself and appreciates their value," is the way a consumer goods executive explains strong recent growth in training staff and programs at his company.

The increasing status of human-resources management programs, and growing professionalism in the education and training activities of many companies has also influenced the attitudes of top executives. It is clear, too, that the fortunes of training programs have reflected the competence of training managers and their ability to "sell" their programs to top and line management.

Management's recognition of a new orientation toward learning in the work force itself may also be a factor, some observers suggest. One executive comments: "Members of the 'baby boom' generation and managers and professionals who have come up through the ranks in recent years have understood the need for continuing education in a rapidly changing world: They expect and demand more training.

Important new needs and growing management support

Terminology

According to *Webster's Ninth New Collegiate Dictionary, 1983*

- to "train" is "to inform by instruction, discipline or drill; to teach so as to make fit, qualified or proficient";
- to "educate" is "to provide schooling for; to develop mentally and morally by instruction";
- to "develop" is "to work out the possibilities of; to promote the growth of; to cause to unfold gradually".

As a shorthand convenience, and in the absence of a more suitable term, the word "training" is sometimes used in this report to embrace all of these activities.

have combined to enhance both the role and status of training in many companies. Some representative characterizations of this change:

- "Management has become convinced that education drives the business."
- "A stepchild until recently, the training function is now seen as essential to the company's strategic goals."
- "Developing our people is now the heart of our business strategy."
- "Our human resources function was given a new charter three years ago—to contribute to the company's competitive edge by recruiting talented people, training them, and not letting them stagnate."
- "Training departments used to be wiped out by recessions, but few were in the recent one."

Influence of Technological Changes

No group of personnel or type of business is immune from the new learning requirements imposed by technological change. Production managers must understand computer-aided manufacturing and continuous-flow techniques; sales and human-resources managers use computerized information systems. General managers have to grasp the technological competencies needed for jobs within their purview. Senior managers need to understand technological implications and possibilities to plan investment strategies.

For nonmanagerial personnel technological change has been the principal—often the sole—force behind new training needs. High technology has replaced electromechanical processes, and computers have taken the place of earlier information systems. "More and more of our jobs call for knowledge-workers," an energy company trainer says. A manufacturing executive observes that "not long ago drafts people needed only a slide-rule; today they must know computeraided design." Typists have been learning to use word processors, sales clerks to operate computerized cash registers; and plant workers to operate electronicallycontrolled equipment.

Lockheed-California trainers are preparing 200 clerical employees for the company's move into "the automated office," according to a company executive, by teaching them the uses of the computer for word processing, spread sheets, and data banks, and have begun classes for another 60 machine-shop people in aspects of computerized numerical control.

Accelerating the introduction of new products, technological change has also affected the work of marketing and allied personnel. "Products used to be introduced in a few cities and move out across the country gradually as we trained more people to sell and service them," Xerox's education and training manager says. "With today's technologies, you launch them worldwide very quickly to meet the competitive challenge."

There are problems, however. Until the recent technological explosion, engineers and scientists appeared to have had little difficulty in keeping abreast of their fields by reading periodicals, journals and books and participating in company, university or professional-society programs. Participants say this is no longer true. For one thing, the "half-life" of an engineer—the length of time for which his or her training will serve adequately—has been sharply reduced. (Estimating this at five years, one training director figures that a twenty-five year old graduate will have to be reeducated eight times in the course of a forty-year career.)

In the face of this greater need, the nation's engineering schools, an important resource which engineers have used to keep current in the past, are not serving business needs as well as they once did, some executives say. "They are in an economic bind—unable to afford either expensive state-of-the-art equipment or salaries that are competitive with those offered to engineers by private employers," one comments.

Meeting New Management Development Needs

If technological developments have had their principal training impact on nonmanagerial occupations, most other changes have directed attention to the education of managers. Managers are seen as the key to the implementation of new or revised strategies that seek variously to increase competitive strength, enhance productivity, raise the quality of products and services, and meet circumstances altered by deregulation and other events.[1]

Even where their companies are not changing strategic directions, top executives may seek benefits from enlarged management-development efforts. A typical comment: "We decided two years ago that better managers are an important part of the competitive edge." The need may appear greatest among firms that have pruned their managerial ranks or cut the number of level of management. "Leaner staffing entails broader spans of control and calls for better managers," another study participant observes.

Finally, some firms have been anticipating the need for a new generation of managers. Seagram, for example, inaugurated its first management-development function in 1984, not long after introducing a succession-planning system. A company official says this was "partly because the liquor business has become a lot tougher, but also because a number of senior managers and some middle ones were nearing retirement."

Most newly created management development programs have been designed primarily for lower- and middle-level managers; existing programs have tended to expand their reach upward. The training director of a consumer products manufacturing firm says: "Successful older managers who

[1]Various social and demographic factors were found to have had little or no influence on corporate training programs during the past five years. See Appendix (See also Helen Axel, *Corporations and Families: Changing Practices and Perspectives*, The Conference Board, Report No.868, 1985.)

have been directing the affairs of profitable companies recognize fairly readily a need for the education of younger and less-seasoned people. It takes longer for them to accept that they may have something useful to learn themselves. The problem is less acute in high-tech and service companies that have had a clear need to train people on a continuing basis. But where the technical aspect is missing, it is hard to bring along the rest—there is no tradition."

The focus or mix of management education subject matter has also changed recently in many companies. Skills, as distinct from theory, are said to be receiving more emphasis. "We are providing services that the company desperately needs, such as a manual for functional managers on how to do a strategic plan," the director of training and development for a consumer goods firm points out. Others report that while interpersonal relations continue to be a basic subject, the scope of their management development program has widened. "The emphasis used to be on employee-to-employee relations; it now also includes employee-to-supplier and "customer relations," a manufacturing firm reports.

A Corporate Resource

More and more companies are coming to regard their managers as "a corporate resource," available for reassignment from one division to another and for movement between corporate and operating units. This approach has been a factor in the decision to centralize management development in some companies. It has had other effects as well. It has made job rotation possible as a significant development tool, rather than an occasional occurrence. It has also affected the content of formal educational programs. A human-resources executive at a bank, for example, describes a recent change in its entry-level management-training program: "The program used to be functionally oriented and one-dimensional, with trainees assigned to one of three ladders—commercial banking, investment trust business, or operations—where they were expected to remain. A particular trainee learned about credit finance but not about retailing, trust investment, or money markets. Now all of these subjects are covered for all trainees, who understand that they may be assigned wherever they are needed."

The prevalent growth of the management-development effort is reflected in new programs, wider manager participation in existing ones and in the creation and enlargement of corporate training departments. It is also manifest in a trend toward what many refer to as the "IBM model."

Moving Toward the "IBM Model"

When an IBM employee becomes a supervisor, and upon subsequent promotion to higher managerial ranks, he or she is required to go through a course of study deemed appropriate to the responsibilities being assumed. The program content at each grade builds on what came before and is addressed to the responsibilities to be assumed. Various companies have adopted similar approaches to management development in recent years, while others aspire to it.

Even where the "IBM model" is not adopted in its entirety, that feature of it that seeks to connect and integrate program stages or parts may be. For example, an internal management development program launched by one company in 1981 is built on seven core programs. It seeks to avoid discontinuity, "a major flaw in many management-training programs," the company's director of management-resources development says. "Our programs don't just start and finish, but are designed so that participants see how one part fits into another. Our outside faculty members work together toward this end, even to the point of coordinating terminology."

Changes at General Electric

A GE company executive says that his company "tries to minimize rules—doesn't want to say a person can't be promoted unless he or she has taken a course." Several years ago, however, a decision was made to focus corporate training at certain critical points in the career of a manager. This same executive says: "Training and development became an arm of corporate strategy, giving close thought to when the corporation should intervene with programs to assure coordination, integration and acceleration."

Participation in a 12-week executive-development program is not formally required of potential general managers, but "is understood to be expected." General Electric has long had a formal managerial program for college recruits, and offers one for the heads of various functional areas in the business units—the latter identified as "strategic marketing," "strategic finance," and so on. The company has recently instituted a required program of training for new managers. About 1,000 participate every year worldwide. It differs from IBM's program, according to GE's management-education chief, in its "strong orientation toward increasing General Electric's competitiveness as well as focusing on traditional 'one-over-one' skills." He explains: "The training occurs during the first 12 months after an individual crosses the threshold to management. The first phase is based on self-study—local managers administer materials prepared by the corporate management-education operation. After the person is on the job for six to eight months, he or she attends a six-day program at GE's Management Development Institute at Crotonville, New York. Phase three, like the first, is administered locally and involves 14 modules of management modeling.

"Why this big new program? Research showed us that first-line managers manage about 50 percent of the professional workforce of the company. They do the interviewing and hire about 90 percent of all new employees. Yet many have been in the company for less than five years and have had no training in selection, motivation, evaluation, and so on. They hold the company's proxy in key areas—employee relations, EEO, for example. In the course of its preoccupation with executive education, the company had forgotten about these managers and neglected them for many years."

Implementing New Strategies and Goals

The training director of a top multinational says: "Our larger corporations are going through a process of sorting out what they want to become and where they want to go, and they are looking for ways to make sure all their people come along with them on the trip." Several examples illustrate the increasing use of management education and training programs in the implementation of new strategies.

A New "Philosophy of Management"

In October, 1983, a Management Mission Program was officially launched by Combustion Engineering at a meeting of the company's 70 most senior executives. This two-day program was designed by the training department in consultation with senior managers. It reached over 15,000 employees in its first year.

The program's goal was to change the corporate culture. It sought to do this in two ways: First, a senior executive would present and discuss with participants a new "philosophy of management"—one that aspires, in the words of the company's Director of Management and Organization Development, to "more participation, more sharing, more openness, more flexibility, more risk taking, and improved quality." Second, based on participation, the two-day session would itself be "a showcase" and exemplar of the changes sought. Films, dealing with issues ranging from methods of supervision and styles of leadership to ways of building sales and increasing earnings, would be followed by solicitations of participants' opinions and general discussions.

The meeting of top executives at which the program was launched was opened by the CEO, who described his vision of how the company should evolve over the next decade and his philosophy of management: He sounded the themes that were to be echoed down the line. A second round of meetings took in senior managers of the operating companies — about 500 in all. The several group vice presidents, who had attended the first meeting, opened these sessions much as the CEO had the earlier one, endorsing and interpreting his key ideas for the operating unit managers.

To bring this program to personnel within the operating companies, 45 of these units' staff members—some training personnel, some drawn from the ranks of planners, marketers and other staff specialists—were specially trained by the corporate training and development staff. The presidents of the operating companies represented management at these sessions.

Issues raised at the Management Mission Program meetings—problems relating to communications, for example, or to the administration of the performance-appraisal system—have generated special study groups and task forces. If the ideas or suggestions arising at sessions of either the basic program or the task forces have companywide implications, they are passed on to a corporate-level steering committee. This committee, made up of three senior managers, was appointed at the program's start to monitor progress and to channel and follow up on new ideas.

In short, says Combustion Engineering's manager of training and development: "This program is not only communicating a change, it is also making training a dynamic part of the change process." Moreover, it represents an approach that is applied to other programs, this executive notes. "In our finance course, for example, or our advanced management course, company officers talk to participants about the strategic directions of their function and then ask them to react. So our meetings are really two-way dialogues, and training becomes a means to several ends. At the same time individuals are trained, they give benefits back to the corporation by identifying problems and even coming up with recommendations as to what can be done."

Quality Circles

The introduction of quality circles and similar programs to encourage wider employee participation in management has also had training consequences.[1] As part of a strategy to increase productivity, Olin Corporation, for example, began to develop "Employee Involvement Teams" several years ago, giving the training department responsibility for instructing managers in how to organize and operate them.

Responsibility for coordinating such a program was also given to the training department at the Chicago, Milwaukee, St. Paul and Pacific Railroad. This unit has produced guides for the leaders and the "facilitators" (assistants to the leaders) of quality circles and of problem-solving teams, and manuals for the instruction of those assigned to take over these duties. It has done the same for the labor and management members of such groups. The training department has also developed a participants' manual for "Steering Committees"—labor and management groups in particular places that organize local quality circles, decide how they will operate, and oversee their functioning.

The director of the Railroad's training department, who serves as a consultant to the heads of the several steering committees, says about his unit's role: "Management turned to the training department when the quality circles were started. It seemed to them a logical place. We had done motivational training before and understood the group process, how to institute organizational change, and how to do problem solving. The consultants who set up the program taught us specific quality-circle techniques and gave us other related training."

Reaction to a Merger

Allied Corporation's human resources organization was assigned a key role, following the firm's acquisition of Ben-

[1] For details on such human-resource programs, see Harriet Gorlin and Lawrence Schein, *Innovations in Managing Human Resources*, The Conference Board, Report 849, 1984.

dix. It began with the design and execution of a survey by the director of that unit, intended to "identify the various elements that collectively constitute the cultures." A senior executive-training program was then built around these elements. Two aspects of the program are stressed by this executive. First: "It did not grow out of a traditional needs analysis or performance appraisals, but from a recognition that the two parts of the organization had to be integrated and share an understanding of who we are and where we are going." Second: "The idea was not to establish hard and fast rules about how to do things—or to teach marketing, human resources, or other traditional subjects. It was to help managers understand the world around us—international trade, the new business environment, Allied's values—and to help them to start thinking strategically and see the ramifications of their actions. It was also to get them to know each other better." This senior program became a model and was adapted for other strata of management.

Prior to their integration, both Allied and Bendix had built their management development programs around middle and lower levels of management. "One of the big changes has been the inclusion of top level directors and senior executives," an Allied executive says. While the initial purpose was to facilitate the merger of the two cultures, an ongoing effort has been institutionalized in the firm's development staff.

Chapter 2
Changes in Program Scope

ALL KEY INDICATORS—rates of employee participation in formal training activities, numbers of staff professionals employed, involvement of non-professionals in training, use of outside resources—point to widespread growth in corporate training activity during the past five years.[1]

Participation Rates

The proportion of employees participating each year in education, training and development programs increased more often than it decreased in all major personnel categories (Table 1). Gains were greatest for supervisors and middle managers: More than a third of surveyed companies reported increases during the recent period in the participation of these groups, while only one in fourteen said participation had decreased. Not far behind, with about one in four noting increases, were senior and upper-middle managers, professional and technical employees, and sales and marketing personnel. Least likely to have participated more broadly in training at the end of the period than at the start were secretarial and clerical workers, and operators and craftsmen.

Financial institutions (less readily distinguished now simply as banks, insurance companies, or brokerage firms than they were five years ago) report large increases in training participation among all employee groups (except operators and draftsmen) markedly more often than do industrials or other kinds of service firms (Table 2). In each of the groups, however, "large increases" were reported most frequently for supervisors and middle managers.

Participation growth has been qualitative as well as quantitative, some of the respondents say. The executive responsible for management development at GE comments, for example, about recent changes in that company's program: "The net effect has been to reduce the number of courses but to make for higher-quality participants and for wider coverage of those who have been identified as target populations."

Corporate Training Staff

The corporate training staff has grown in about half the surveyed companies. A like proportion report staff increases in training functions at divisional or operating-unit levels. Overall, the number of training professionals has increased at one level and not decreased at the other—or has increased at both—in nearly two-thirds (64 percent) of these firms. The proportion of companies reporting increases in corporate-level staff is highest among financial companies and lowest in the top industrials: So, too, is the ratio of increases to decreases (Table 3, p. 8).

Marked reductions in staff are linked to persistently lowered earnings—and broad cuts in personnel—though some firms have trimmed training departments in less severe circumstances. Staff reductions have not always resulted in diminished training activity staff (see p.11). The 1981-1982 recession, moreover, is widely said to have been less damaging to the integrity of staff and training programs, even temporarily, than earlier ones.

Participants attribute this to an earlier elimination in their programs of "nice to know" courses, and to the closer connection they have established between training activity and the operating needs of the company. "Management has become satisfied that we only do the essential—that we're contributing to the bottom line," one training director says. An aerospace executive notes a major change in philosophy in his company: "In anticipation of future skills needs—and with strong pressure from the line—management decided to increase staff during the recent recession rather than decrease it—to use down time to good purpose."

[1]Readers have learned to treat cautiously findings of surveys with large non-response rates. In the present case, however, interviews conducted at firms that did not respond to the Board's mail questionnaire showed patterns of change very much like those of the participants. Similarly, follow-up among a large group of non-respondents to a 1977 Board survey on training and development showed that levels of staffing and programming in the firms that did not participate initially were only slightly below those of the participating group. (Seymour Lusterman, *Education in Industry*, The Conference Board, Report No. 719, 1977)

Table 1: Changes in Employee Participation[1]
(184 Companies)

	Changes in the Proportion of Employees Who Participate Annually in Company-Sponsored Training					
	Percent of Companies Reporting					
	Increase		*Little or No*	*Decrease*		
Employee Category	*Large*	*Small*	*Change*	*Small*	*Large*	*Total*
Senior or upper-middle managers	24%	25%	45%	3%	4%	100%[a]
Middle managers	34	32	27	2	4	100[a]
First-line supervisors	40	32	22	3	4	100
Professional and technical	23	40	32	2	3	100
Sales and marketing	27	31	36	2	4	100
Secretarial and clerical	15	28	51	4	2	100
Operators and craftsmen	8	26	58	3	4	100[a]
Other	6	12	77	—	4	100[a]

[1]During past five years.

[a]Details do not add to 100% because of rounding.

Table 2: Large Increases in Employee Participation, by Industry[1]

	Large Increases in the Proportion of Employees Who Participate Annually in Company-Sponsored Training				
	Percent of Companies Reporting				
Employee Category	*Top Industrials* (n = 44)*	*Other Industrials* (n = 50)*	*Financial (n = 44)*	*Other (n = 46)*	*Total (n = 184)*
Senior or upper-middle managers	22%	22%	34%	16%	24%
Middle managers	29	39	46	21	34
First-line supervisors	24	39	61	33	40
Professional and technical	12	22	44	11	23
Sales and marketing	10	26	52	19	27
Secretarial and clerical	10	14	23	13	15
Operators and craftsmen	7	6	4	15	9
Other	9	—	12	5	6

[1]During past five years.
* Respondent's from *Fortune* 500 industrials are separated here into top 250 and others.

Where deep cuts were made temporarily, short-term financial benefits may have been offset by longer-term costs, several participants suggest. "We cut back staff when austerity hit the industry in 1982," the training manager of an energy company says, "and began building it up again a year or so later. You can hold back training from technical and scientific people for only so long without paying a price. It was a costly maneuver; we lost trained and experienced trainers. It is hard—and takes time—to replace talent." An executive at a firm that disbanded its training department five years ago says that his company's tactic, for the present, is "to hire expertise rather than train it."

Staff Professionalism

As companies have striven for greater efficiency in needs assessment, program development, and course delivery, their training departments have had to become more "professionalized," some participants say. For example, Hewlett-Packard's Director of Training and Development reports: "Five years ago we had more people who were rotating through the training department to round out their experience. Now we are looking for people who want to specialize in this area—and we're finding them." Others make the same point. An insurance executive says: "Our training func-

Table 3: Changes in Training Staff Size, by Industry[1]
Percent of Companies

Number of Staff Members:	Top Industrials* (n = 44)	Other Industrials* (n = 50)	Financial (n = 44)	Other (n = 41)	Total (n = 184)
At the Corporate Level	**100%**	**100%**	**100%**	**100%**	**100%**
Increased	38%	55%	69%	48%	52%
No Change	38	32	26	43	35
Decreased	24	13	5	11	13
At Divisional or Other Levels	**100%**	**100%**	**100%**	**100%**	**100%**
Increased	48	32	73	61	52
No Change	38	51	22	39	37
Decreased	14	17	5	10	11
Overall	**100%**	**100%**	**100%**	**100%**	**100%**
Increased at corporate and other levels	19	17	57	36	32
No change at corporate and other levels	21	19	12	29	20
One level increased, other unchanged	34	45	25	23	31
One level decreased, other unchanged	14	8	4	2	8
Decreased at corporate and other levels	12	11	2	10	9

[1]During past five years.
* *Fortune* 500 industrials are separated here into top 250 and others.

tion has not changed during the past few years, but the kind of person in it has changed drastically."

Specialists are being hired with backgrounds in a growing variety of fields. Hewlett-Packard's department includes personnel with graduate degrees in curriculum design and other fields of education, as well as in organizational behavior and development. It also includes a specialist in interactive videodisc programming and several TV professionals with major network experience.

Because much more time, effort and expense are going into educational development, IBM's Director of Education says, "instructional designers, and occasionally professional writers, have replaced teachers, who used to do these things when they weren't teaching—usually not very well. Audio and video people are also being brought in more and more."

At least one corporate training director sees line experience as a desirable background for a headquarters staff job. Another, who herself recently managed training at a major subsidiary, plans to fill future corporate staff slots with trainers from field operations. She says: "The corporate department will be the ultimate job for senior trainers. We will have people who know and are able to work effectively with others."

Training Roles of Other Company Personnel

Training resources have been augmented in most companies through the greater use of line managers and other nonspecialists. Seven out of ten of the participating firms say that the time devoted by such personnel to instruction and to program planning and development has increased during the past two years; only a handful report reductions. Wider use of nonspecialists is reported by nearly four-fifths of the companies that have also added to their professional training staffs. Three in five of the firms that made no change in the size of their training and development staffs—and nearly half of those that reduced them—also reported greater use of nonspecialists.

Line managers and specialists in areas other than training are more often working with design experts in course development, bringing to the process their greater knowledge of both the subjects and skills to be taught and of the situational context. An insurance executive, describing the development of a multifaceted program for managers, says: "We pulled together a group of functional officers and asked them what skills were needed by middle-and upper-level managers in each of their areas. The training department has become the glue—a development coordinator and broker. In the past we would have brought a program in from outside that didn't quite fit, or spent a lot of time on a training needs analysis."

Specialists in more than one area may collaborate in course-development efforts. At J. C. Penney, for example, technical personnel from the training, merchandising and video departments joined to develop an interactive video program designed to train buyers in automated inventory management.

Line managers who teach are more likely to have been specially trained for that activity today than in the past. The extent to which this happens, though, depends on the size of the company's training department, the competencies to be imparted, and various cost-benefit considerations, as well

Changes in Use of Outside Resources[1]
(184 Companies)

	Percent of Companies Reporting Change	
	In Use of Instructors and Consultants For In-House Programs	*In Use of Universities and Organizations Offering Outside Programs*
Large increase	17%	9%
Small increase	36	31
Little or no change or trend	34	47
Small decrease	8	9
Large decrease	5	4
Total	100%	100%

[1]During past five years.

as on management's attitudes. A large retailing enterprise reports that it has recently adopted "a new strategy of using line people rather than trainers as much as possible" to help validate and emphasize to participants the importance of the training, and so that course content may be adapted to local conditions. Programs developed for this firm by outside consultants are initially conducted by these specialists but are then turned over to the company's professional trainers. Then they are given over to nonprofessionals who have been trained by the training department.

Many training executives would prefer that courses be taught by skilled staff instructors, rather than by line managers or specialists in other areas. They believe that, at least up to a certain level of complexity, it is easier for good teachers to learn course content than the other way around. They also recognize the limits to this approach, however. Thus, the training director of a high-technology company says: "Staff people concentrate on the generic type programs—management training, training for quality circles, basic math, basic and advanced blueprint reading, crane-operator training. As the subject matter gets more esoteric, others are trained to teach it. We introduced a 'train-the-trainer' course two and a half years ago, and nobody can conduct training now without going through it. Operating managers resisted at first, arguing that there were company specialists to do it. But this hostility has evaporated and most of them now like the idea as they see its benefits."

Outside Resources

The use of outside instructors and other consultants to augment company employees in the design and conduct of in-house programs has also increased during the past five years at more than half the firms surveyed—four times the number stating that it had decreased. (See box above.) Growth was greatest among companies that also increased the size of their in-house training staffs: Nearly two-thirds of such firms say that their use of outside resources has also expanded during the recent period. Growth was only slightly more modest among firms reporting no change in numbers of staff trainers, three-fifths of which note increased employment of outside contractors and one in four firms that cut training staff are availing themselves of outside resources to a greater degree than five years ago.

Private outside contractors are normally employed as a more cost-effective alternative to internal staffing for some training activities, and to procure kinds of expertise not available in the company—or at accessible institutions. An aerospace executive says: "We have good colleges in the area, but we also have needs that go beyond what they offer. So we're bringing their strengths into the company, contracting with individual professors and offering special programs of our own."

Contractors also offer the fruits of wider experience and more diverse interests than most training departments can have. Thus, an oil company recently decided to shift from a staff-prepared and conducted management-development program to the use of outside consultants—in order, the firm's director of education and development says, "to get fresh ideas from the outside, and greater flexibility and adaptability to change. We had become a production operation, grinding out programs, not staffed to provide the necessary research and development."

University Programs

Increased use is being made, for similar reasons, of programs conducted on the outside by universities and training organizations.[1] New arrangements are also being worked out

[1]Bricker Executive Education Service, Woodside, California, a private organization that tracks such matters,estimates that the number of participants in general and functional management programs conducted by universities increased from 10,000 in 1981 to 12,500 in 1984.

with colleges and universities, as companies seek ways of meeting emerging needs and better serving existing ones—particularly in management education and engineering and scientific studies.

Some of these involve special relationships between individual firms and institutions. Xerox, for example, has developed a program with Rochester Institute of Technology "to enable its engineers to grow with the changing technologies," a company official says. Mechanical engineers are given leaves of absence to study computer engineering at RIT.

Hewlett-Packard, on the other hand, brings a university program to its people. In 1982, it set up a micro-wave connection between one of its facilities and Chico State College, an institution it considered to have an outstanding program in computer sciences, bringing live instruction to plant engineers. More recently it has begun to transmit these courses to other locations via its satellite television network (page 14).

Groups of companies have also joined in collaboration with one or more institutions. A group of eight northeastern firms recently created a five-week summer program for upper-middle managers with Boston's Babson College. A total of 35 participants from these firms devote three weeks of study to operations, finance and marketing, and two more weeks to the development and implementation of strategy. Management-development executives at the member firms worked together and with the school on the design of the program: They meet several times a year to review candidate selection and issues of program content and quality. The head of training for one of the companies sees values in the program beyond those deriving from the courses. He notes that participants establish relationships with peers, both within their companies and in other firms, who may become useful to them in the future and from whom they learn about operations other than their own and enlarge their business knowledge.

Another new arrangement, this between a group of universities and a group of large companies, had its earliest beginnings well over a decade ago. At that time, 16 institutions joined in the creation of an Association for Media-Based Continuing Education for Engineers (AMBCEE), an entity designed to promote and coordinate the sale of videotape engineering courses to industry. A major evolution of this effort was the recent formation of an institution called the National Technological University, through which participants in the program may receive degrees. Leading firms are supporting this venture and are represented on NTU's advisory board. It is expected that live broadcasts will supplement videotaped material before too long.

A "First" in Business-Education-Government Cooperation

Lockheed-California Company's machinists have been learning the techniques of computerized numerical control (CNC) through hands-on instruction at a large trailer that is parked outside the plant. The trailer was purchased and equipped with a CNC mill, six CNC lathes, and tables and chairs, by Los Angeles Valley College with money provided by the California Employment Training Panel, a body set up in 1982 to administer retraining funds drawn from an employer-paid unemployment tax. The curriculum was designed by Lockheed-California's training department, members of which also comprise the faculty. The trailer is also being used by other firms in the area.

A Lockheed-California executive says: "This is a first. By working with the community college we develop a resource where equipment that is too expensive for one company can move from place to place and get continual use. At the same time it upgrades the college's equipment."

Lockheed has also helped Los Angeles Valley College launch a course in computeraided design, contributing about $200,000 worth of software. Various firms in the area have been sending employees to it.

These programs are products of an effort mounted by a group of Los Angeles area employees and unions to develop a more productive relationship with the nine-institution Los Angeles College community system. "It's been a long-time interest of ours," a Lockheed-California executive says, "but it's just taken off and begun to grow in the last two or three years."

Chapter 3

Changes in Methods

MOST OF THE EXECUTIVES surveyed believe that training resources in their companies are being used more effectively today than they were five years ago. The principal reason, they say, is that programs are being matched more closely to company aims and interests—"needs-driven," "tied to the bottom line," "client-oriented," are terms used. A variety of new instructional technologies are also contributing to more efficient and cost-effective training. Training programs are said to be serving company needs more effectively as a result of such factors even in many companies that have reduced their training staffs.

"It's a whole new approach—from presenting courses to contributing to the organization," one training director says. Another comments: "We've moved strongly to practical, work-unit-based, training interventions; to short workshops tied to actual practice; to skill building rather than information giving." Still another contrasts his firm's recently adopted approach to training "as an arm of corporate strategy" with earlier practice: "Education in the past was an incoherent cottage industry in our company. The people that ran it had a constituency that covered their expenses by sending students. Courses proliferated, were redundant and oversegmented. The training department was an internal sales agency, measured by how many courses it could sell."

Among the many firms reporting a major reorientation toward "needs-driven" education and training within the past few years are companies like IBM, GE, and Xerox—all of which have long been regarded as leaders and exemplars in the field.

IBM's Director of Education says: "Education is hard to manage, but a systems approach is evolving in our company. We're trying to be more precise in our planning and delivery—to identify the knowledge and skills that are needed for every major job in every major area of the business, and to direct education to that definition, rather than simply to provide courses. The justification for courses in the past was that people wanted them. Now the skills needed by marketing representatives, field engineers, and others are carefully and methodically identified. Courses are still offered, but no longer on a 'nice-to-know' basis."

Pressures toward this end have come not only from top planners and budgeters, but from the line constituencies of training departments as well. One training director says: "Managers have become more sophisticated and demanding about what training should do for them. They are impatient with long training programs. They want to learn a skill and get back to work. There is pressure on them for productivity. They have to be convinced that training will pay off."

Assessing Needs and Defining Goals

Needs-driven training, participants suggest, entails a number of closely linked steps — assessing individual and group needs, defining training objectives, selecting participants, designing courses and instructional methods, providing for feedback and evaluation. "Most companies do some of these things well, but few do them all well," a food company executive says. Several recently appointed training directors commented on the "poor connection" they found between company needs, as determined in performance appraisal procedures, and the training programs then in place.

Three out of five of the companies participating in this study report that significant change has occurred during the past five years in their methods of assessing training needs. These changes appear to take three forms.

First, job-description and performance-appraisal processes are being used more widely, and with greater sophistication, to ascertain the training needs of key personnel. Typically included are individuals judged to hold special promise for advancement to future leadership, and those likely to succeed present managerial incumbents. "Individual contributors", specialists in a variety of professional and technical areas, may also be brought into these processes.

Second, training executives in many companies are working more closely with managers to help them: (1) to interpret the training implications not only of performance appraisals, but of new technologies and operating systems; and (2) to judge the role of training in improving unit performance. In the process, training goals are being spelled out with greater specificity.

An oil company's training department, for example, requires that prospective trainees and their superiors agree beforehand on the skills improvements to be gained from a course of study. Trainees and supervisors complete a questionnaire developed by the training department for the purpose, and meet together afterwards to compare their respective assessments. A "preliminary action plan" is revised during the training program and in a post-training evaluation process. In other companies, program designers build courses around "teaching points"—items of knowledge and skill to be imparted.

J. C. Penney's manager of training and development describes the program-planning process of that company: "Our five regional training managers meet with key store personnel during the summer to determine what additions, deletions and revisions to make to their training programs. At the same time, headquarters staff learns about the plans of departments that have an impact on stores—merchandising, advertising, systems catalog, and so on—and integrate them into training plans. Then there is a "summit" meeting, and, finally, budget adjustments. While this process has been going on for quite a while, it has been done well only for about five years—the result of experience and better administration. Our people were skeptical at first — not sure it would be useful. Now the program is established and ongoing, and during the year people think about what else is needed and what should be changed."

J. C. Penney's experience also exemplifies the closer liaison reported by a number of firms between training managers and top company planners and strategists. The J. C. Penney training executive says: "Training in the past focused largely on lower-level skills and on management theory. Today it supports company strategies. During the past few years, for example, the big emphasis has been on sales and customer service. Through video tapes, workshops, meeting scripts and communications pieces the training department has gone all out to support that direction. We are now called upon by management as directions are formulated. We are in close touch with the beginnings of policy formation."

Some participants say that managers in their firms are becoming more skilled at assessing training needs, but most stress that their judgements cannot be accepted uncritically. "Department heads rarely understand what kind of training is needed," one says: "They often ask for a course when a better approach is possible." The director of training at a pharmaceutical company adds: "Many of our managers have little sophistication about possible causes of problems and deficiencies. For example, people may not meet deadlines for a variety of reasons: Their personal organization techniques may be bad; they may not know how to assign priorities, or to keep the things and information they need available. Their problem may be that they're not staying current with their field — don't know how to gather information or don't spend enough time reading. They may have a problem delegating responsibility. Or the problem may be a kind of block caused by poor ability to organize a report—or anxiety over an oral presentation. They may be 'pleasers'; get stuck on taking risks; be indecisive. You have to know the reason before you can bring about a change."

A third factor in the improvement companies report in their needs-assessment process is that training personnel in different parts of the company are exchanging information and judgements to an increasing extent, usually under the auspices of the corporate department. (This is discussed more fully on page 19.)

Selection of Participants

As education and training programs become tied more closely to individual and group needs, the methods of selecting participants—and criteria for participation—often change as well. About half of the companies studied report that change has occurred in this respect during the past five years.

By and large, two kinds of changes are reported. First, in some firms participation is no longer by self-selection. "People just used to sign up for courses and attend: Now they must be nominated by their department heads," an insurance executive reports. "With training tied to the goals of the corporation rather than to a list of course offerings, participation has become more selective and mandatory," another executive says.

Second, training for whole categories of employees is required in more companies. This is reflected principally in the IBM model in which training precedes or follows promotion to new levels of management(page 3). But it appears in other forms as well. Thus, one participant reports that his company "is beginning to move away from bringing individuals in for training and toward the training of entire organizational units." New internal systems, made possible by the computer and other technological innovations, and such changes as the introduction of quality circles, have also led to mandated group training.

Evaluation

Somewhat over two-fifths of the companies taking part in this study report significant change during the past five years in the ways in which they evaluate training effectiveness. Most appear to be trying to measure behavioral change against predetermined performance goals. Few training executives any longer honor the idea that programs can be judged solely by how well trainees learn course material. "It's easy to find out what people have learned, but more difficult to determine its value to the company," one says. For some skills, success in attaining training goals is readily measurable—even observable—often at the training center where actual work processes are represented or simulated. "Supervisors who send their people to you will let you know very quickly if they're not being trained properly," one training manager says.

Management-development programs—and others with complex aims and distant payoffs—present the more formidable evaluation difficulties. Some training-program evaluations rely on the testimony of those who have taken part in courses. Typically, participants are asked to criticize and make suggestions about programs they have attended immediately upon completion. Three to six months later they may be asked to report on how their job performance has changed as a result of the program. Increasingly, their immediate superiors are also being asked to judge the effects of programs on subsequent job behavior.

More often, too, the appraisals of participants and their superiors are in terms of a variety of criteria. "A few years ago, managers rated improvement on a one-to-five scale, with optional comments. Now they rate specific items of performance," a tobacco company executive says. One human-resources-development executive says about a management-training program: "If 72 percent of their superiors report marked improvement in people they've sent to be trained, you can assume the program is working—that in the other 28 percent either the organization or the person is blocking. If the reverse ratio is found, the program is at fault."

It has become practice in many companies to specify expected results before training activities are undertaken. The Director of Human Resources Development at the Chicago, Milwaukee, St. Paul and Pacific Railroad, for example, says: "Laying and repairing track involves the use of hazardous equipment. When the department responsible for this work requested a program to train new employees, we asked what they expected from the program and a 50-percent accident-reduction goal was set. Using a control group, we were able to demonstrate a saving from the program of $225,000 per gang."

This executive says, too, that the training in many skills areas simulates working conditions so closely that its effectiveness can be validated before the participant returns to the job. He says: "This makes it possible to pinpoint blame. If employees have demonstrated that they have acquired certain skills in the course of training and then fail to perform satisfactorily when they get to the job, disciplinary action is indicated unless some explanation other than lack of effort can be found."

Group Criteria

New human-resources strategies have generated their own assessment techniques in surveyed companies. Thus, programs to train supervisors, shop stewards, and others in the organization and operation of quality circles are often evaluated by group- rather than individual-performance criteria—productivity, absenteeism or grievance rates, for example. In a few companies, the effectiveness of efforts to move managers toward more participative styles of leadership are judged by the findings of employee attitude surveys.

Group or collective performance criteria are being applied to other than team programs. One firm, for example, is assessing a self-instructional course in sales forecasting on the basis of improvement in the aggregated forecasts of its field sales staff.

Mutual Reinforcement

The closer relationship between training specialists and line and staff managers that has been evolving through their joint endeavors in many companies—in assessing needs, specifying training goals, and appraising results—has had significant side benefits, some participants observe. First, managers gain new training-related skills, as well as insights into other sources of productivity problems. Second, they get more feedback from training sessions than in the past—are told more by trainers about opinions, attitudes, ideas and concerns expressed by members of their units during the give-and-take of program events.

Third, to the extent that the trainees' managers have contributed to the formulation of such goals, their subsequent role as evaluators closes a loop and deepens their involvement in the system. The result, one human resources executive says, is not only better course design but enhanced understanding, trust and support from managers and a greater readiness on their part to spend time with training groups. Another says: "They have come to understand" that the department is not trying to jam something down their throats." Still another training director says that as word of his department's success "in producing measurable gains in desired behaviors" made its way through the reaches of his company during the past five years, training activities burgeoned and staff doubled in size.

Changes in Training Technologies

If changing technologies have been a major source of new training needs, they have also been transforming training methods. Three out of five participants report significant change in training methods and the use of technology in training during the past five years. "Thanks to television and computer-aided instruction, the big thrust now is from instructor-intensive training to self-administered training," one training executive says. Reinforcing as well the trend toward experience-based learning, these new media are said to have "dethroned the classroom."

The use of television has grown rapidly in recent years, not only for demonstration and exposition, but as a means of appraising and correcting performance in training situations. Skills trainers at a supermarket, for example, use live video to demonstrate to trainees mistakes they have made in filling grocery bags; management development people at an oil company use it to criticize role-playing exercises, such as enactments of disciplinary encounters. "Live videotape playback has become a powerful tool," a training director says.

With the growing prevalence of computers in company

offices, computer-assisted instruction can be "imbedded" —employees can be instructed in the use of new systems at the very terminals they will be using in their work. But the use of the computer in training has been limited. It is now beginning to take off, many training executives believe, impelled by a still newer technology that marries computer-aided instruction with moving pictures. "Computer-assisted instruction has been only half the picture: Interactive video disks have made a viable teacher of the computer," one executive says. Others note that while magnifying the computer's instructional effectiveness, interactive video has also taken the boredom out of it.

Thirteen hundred J. C. Penney buyers will go through an 18-module, 36-hour, interactive video program that will prepare them to make better buying decisions, using an automated inventory-management. First-time supervisors at Olin alternate computer work on such subjects as budgeting and disciplining, with discussions in small groups. Computer-imbedded instruction teaches billing systems to new Xerox employees.

Much more sophisticated training uses of the computer are also being made. Management exercises based on computerized simulations have been offered by universities and private firms for some time. At least one company, Hewlett-Packard, has built a model around its own special circumstances. Four years in development, this simulation exercise has recently become the core of a week-long functional management seminar. Participants are grouped into competing teams, each composed of a general manager and staff. Team members are assigned functions other than the ones they normally perform. "Thus, a personnel specialist might take on marketing responsibilities: Based on engineering, marketing, financial and other information, he or she will decide on a new product development and product introductions, levels of support for products on the market, and marketing strategies," the executive responsible for the program says. Plans are reviewed quarterly in this simulation exercise, as economic and competitive conditions change.

Video and computer instruction, which is often designed specifically for company applications, also offers many other potential benefits, respondents say. Content can be controlled, and uniformity or consistency with other programs assured. Geographic distances can be spanned quickly, and travel costs avoided. Personnel can be trained singly, as need arises, without the high cost of one-on-one instruction—or the inefficiency of waiting until groups are gathered. Trainees can pace the instruction to their own capabilities, and can repeat or go back to material at any time. Programs can readily be modified and updated.

Olin, which introduced its first "interactive instructional system" five years ago in its Chemicals Division so that customer service personnel could adapt to the requirements of a new order entry system, has found another value in the new technology. A company executive says: "We can pick up at a central point in the system and track how far each person has progressed and how much time it took to get there—helping us to appraise individuals and discover ways of improving programs."

Learning at Home

Con Edison offers management employees 36-month interest-free loans of $500 to $8,000 toward the purchase of computer equipment and supplies for use at home. The Company also has arranged for 20 percent discounts with a computer retailer. Instituted by the company's chairman, the program is intended to "help promote computer proficiency throughout Con Edison's professional and management groups."

Other companies, for the same reason, have provided personal computers to executives for home or office, first giving seminars on their use.

TV Networks

TV networking is another new method that is coming into growing use—and aspired to even more often. It is an important technology at Hewlett-Packard. That firm's corporate training department comprises 80 people. It includes three training groups: One is responsible for basic management development and employee education and another for executive development, The third is chartered to explore the use of computer technology in company training. The largest group in the department, however, numbering about 30 people, is a corporate television network. Through this group, Hewlett-Packard has been transmitting via satellite to 67 receiving stations at company facilities in the United States and Canada for the past few years. With provision for overseas transmission as well, this facility is used exclusively for the training of Hewlett-Packard employees. It has become a major form of the support by the corporate unit provided to personnel at over 50 manufacturing divisions —support in "educational technology and expertise on how people learn," in the department manager's words.

HP's television network is used principally to provide training in new products for sales, service and other support personnel, although it has been used for engineering education as well. The information to be conveyed is determined by the responsible product division; the manner of presentation by the training department. "One of our staff producers is assigned to each project," the company's training director reports. "He or she is responsible for working with the division in putting the story and course together in a way that will be effective on TV. The using division is charged on a cost basis."

The TV unit continues to make video tapes for company users, in addition to live transmission. In addition to providing educational technology services of these kinds to the field, members of corporate staff offer consulting and support on educational matters to these entities.

Hewlett-Packard's manager of corporate training and development regards the initiation of live broadcasts via satellite several years ago as a major advance in training methodology for his company: "It has several important advantages over video tape. First, you can't procrastinate about using it: When a broadcast is scheduled live, the people are usually there to watch it. Second, all of our live broadcasts have audio feedback—interaction. A phone-line system allows people at any of the sites to call in questions, and includes a screening and control arrangement whereby operators appraise the value and timing of each question. Third, and quite unexpectedly, the live presentations are better than the taped ones. For some reason, people are motivated to prepare better and to rehearse more often. Finally, we can tape live broadcasts at headquarters for distribution, and they can be taped locally for the use of people who missed the telecast—including new employees—or for a refresher, say, the day before an important sales presentation."

Training-program managers have long been making recommendations and decisions about modes of instruction appropriate to given conditions. Some structure the process with checklists, grids and guidelines, and train other company trainers to deal with the issue. Factoring the new technology into this process is proving to be particularly vexing for many, although interest is strong. "Systems, hardware, course material—the field is enormous and complex," one human-resources-development VP says. "There's nothing you can't do with computer-based training, especially in conjunction with video. But there is a cost—in equipment and needed personnel."

Other training executives speak of this predicament in still stronger terms. One says: "Training has suddenly become so capital intensive, that it has put us in the hot seat. We must choose between alternate modes and models of equipment and risk recommending investments that prove to be unwise—in equipment and systems that quickly become obsolete—or we must recommend against all of them."

Learning by Experience

Training and development executives are likely to affirm quickly their belief that formal instruction accounts for only a small portion of learning—many place it at 10 or 20 percent — and that on-the-job experience accounts for the rest. The most important challenge, they say, is to plan and nourish learning through job rotation, task force and committee assignments, and similar "experiences in unchartered or alien waters."

However, it is a challenge that has been made more difficult in many companies by the recent trend toward leaner staffing. "If you suggest pulling one person out and sending him to another location for three months, there is a fear that the house of cards will fall down", one training executive says. "We've done it only in a few cases."

Chapter 4
Organizational Changes

WHILE EXPANDING PROGRAMS and seeking to improve the quality and effectiveness of their training efforts, most of the companies surveyed have also made significant organizational changes in the past five years. As shown earlier, more than half have increased the size of their training staffs at the corporate and at lower organizational levels—in some cases radically upgrading the function. Eighteen have created corporate training functions for the first time. Several also report that previously independent training units at corporate headquarters—engaged, for example, in sales, marketing, EDP, clerical or management training—have been consolidated. "We no longer have educational pockets all over the place," the training director of a financial company comments.

Changes have also been made in the roles and activities of corporate departments. Potentially, such units perform three distinct functions:

They provide training for certain employee groups—middle and senior managers, for example, or headquarters facility personnel.

They provide service to trainers and training units at lower levels of the company.

They provide information and counsel to top management so that it may better plan, organize and control training activities companywide. Many companies report that their corporate training departments have undertaken one or more of these roles for the first time in recent years, that they have strengthened earlier efforts with regard to them, or that they have significantly changed the way staff time is allocated among them.

The discussion that follows focuses first on the structural changes—the introduction of new corporate programs and the enlargement of existing ones, and then on changes in the activities of corporate staff personnel.

New Corporate Programs

Most of the companies that have created new corporate training and development functions only within the past five years are somewhat below the top rank of *Fortune* 500 firms. Notable among the exceptions are IBM, GTE, and Beatrice. The key aim of the move at IBM was better coordination of numerous education and training centers; at Beatrice, it was the initiation of a management development program, with coordination a secondary factor. Both considerations loomed large at GTE.

GTE

Put together in 1958 as a conglomerate combining General Telephone, Sylvania, and a number of lesser components, GTE made a major strategic turn under a new CEO in 1976. More integrated, it would become part of the emerging telecommunications industry. Such a change, this executive believed, would require that managers understand the new direction, adhere to common standards, become fused into a single corporate culture, and operate at the highest possible level of competence.

A Vice President for Education and Training was added to GTE's staff in 1979, the first person at that firm to have corporate-level responsibility for such a function. A spacious and well-appointed enclave of residential, instructional and office facilities—GTE's Management Development Center—was also constructed to underscore the importance management attached to the new function, to symbolize the changed character of the company, and to provide participants with a learning environment free from distraction and irritants.

The education and training program is conducted by a 58-member staff, comprised principally of professionals but including personnel who are involved solely in facilities and administrative matters. The professional members are grouped into three segments. One is responsible for executive and advanced management education, for programs geared to the top 7,500 of GTE's 40,000 managers. A second segment has created and administered educational programs in functional skills programs in finance, marketing and corporate communications, elements of which are gradually be-

ing turned over to operating units for administration. The third unit is concerned with evaluation, coordination and research.

Programs for middle-and lower-level managers, as well as all professional, technical and sales training, are responsibilities of GTE's operating units. These units are organized into three groups. The largest embraces all telephone operations. An Education and Training Department was created for the telephone group in 1982. It consists of a curriculum design unit, a "National Engineering Training Center," a management training section—and, reflecting GTE's new competitive environment, a "National Sales Training Center." The components of GTE's manufacturing-oriented group are so widely diversified that the educational and training professionals on group staff travel extensively to bring programs to the operating units and to serve them in a consulting capacity.

The Vice President in charge of the corporate Education and Training Department sets corporate-wide policy, and through the staff, coordinates, supports and audits the activities of operating units. An Education and Training National Advisory Council meets four times a year. The Council is the key medium for the exchange of information and experience among GTE's training professionals. It is made up of the corporate Vice President for Education and Training, the directors of his three training units, and the top training executive for each of GTE's operating groups.

A quarterly training-data report is submitted by all operating units to the Education and Training Department at group and corporate headquarters. These reports provide a statistical picture of the time spent by training units in program design and delivery, of the numbers of participants in programs and the hours spent, and of costs.

These data support group and corporate planning activities and are used in appraising the performance of particular training operations. However, these operations are comprehensively audited by operating review teams, consisting of two members of the corporate education and training staff and representatives of the operating units not under review. The review team, following a formal protocol, and having reviewed certain materials sent to it earlier by the operating unit, appraises the program, development and delivery system, as well as curriculum, staffing and management and administrative procedures. It devotes a week to the process, initiated by a meeting with the unit's staff to discuss what will be done, and visits classrooms. The review culminates in an oral report to the head of the unit. No more than a month later, a formal report goes to the head of the training unit, the human-resources person to whom he or she reports, and the corporate Vice President for Education and Training. The head of the training unit is required to respond to the recommendations of the report with a statement of what will be done. This plan then goes to the head of the operating review team and becomes part of the basis for the next annual review.

Advice and assistance is provided to operating units as need arises. The corporate unit also provides support to the operating units in the form of a two-week program for trainers. Given twice a year, it teaches participants how to perform needs and task analyses, how to determine course content on the basis of the information these studies yield, and how to teach effectively.

IBM

Education, always an important function at IBM, was initially centralized and became more and more decentralized as the company expanded and diversified over the years. Recently, however, a recentralization process has occurred within IBM's divisions, and a corporate education function was created for the first time since the firm's very early years. Fifteen divisional or functional units, each headed by a director of education, are responsible for specific areas of education. These include management development, marketing for large customers, marketing for other customers, service, product education, manufacturing, industry education, and world trade. Each divisional center is responsible for the development and conduct of its own programs.

The corporate Director of Education, assisted by a staff of four professionals, describes his unit's role as "not to conduct education, but to work with the 15 groups, developing guidelines, helping with strategies, and trying to improve planning, course development, and delivery." He has no auditing role at present, but anticipates that "as agreements are reached on how to do certain things, the various units will want to know how well they are meeting agreed-upon standards." The corporate director has no formal authority for effecting change: Divisional Directors of Education report to their respective division heads.

A key charge of the corporate department is to foster "a systems approach" to training and development, which, at present is said to be "by no means completely evolved or company wide." Other reasons for the creation of this new function:

- To improve communications among the 15 education areas, create a network that will minimize duplication of effort in program development and methodological research, and constitute a medium through which the benefits of experience can be passed on.
- To coordinate delivery systems—an activity, IBM's Director of Education says, that "becomes necessary as education moves from the classroom and into the age of satellite transmissions and computers that talk to each other."
- To develop an evaluation function: This is just getting under way as heads of divisional units meet periodically with the corporate staff to develop guidelines.
- To answer questions about IBM education from "the outside world" —companies, government agencies, and others.

The recent creation of divisional and functional training centers has been another move to "optimize the benefits of both centralization and decentralization," the Director of Education says. He illustrates with this example: "Customer engineers in the service unit are given 16 days of training. Eight of these are conducted in the branch offices, of which there are approximately 150. They involve computer-based self study. However, eight days must be spent in the classroom in one of the two education centers of the service division—one in Chicago and one in Atlanta. Units at these two centers develop the materials for the computer-based self study that takes place at the branches. This reduces the amount of travel time and expense and the need for instructors, while students are able to proceed at their own rate and use the same material as others for much of their work."

A Consumer Goods Company

Whatever the values of decentralization may be for supervisory, professional and technical training, considerations of both cost and consistency of content usually dictate that programs for managers be consolidated under corporate level direction and control. Thus, the initiation of a management education and training program has been the occasion in a number of companies for the creation of a corporate education and training function. Once launched, even if this is not always anticipated at the time, these new units have tended to assume coordination and support roles as well.

After a 30-year history of growth, achieved in part through the acquisition of small family-owned businesses, in the early 1980's one company determined to realize its potential marketing power in consumer goods by divesting itself of subsidiaries in other lines of business and consolidating its distributor organization and advertising agencies. This firm also launched the first management education program in its history so that executives might understand the company's new goals and be better able to implement them. It did so in two steps. First, to develop desired skills and perspectives in a management team it thought to be oriented too exclusively toward production problems, top management arranged with a local university for a course in marketing management. A week-long program, it was taken by the 430 highest level managers in the company during 1983 and 1984.

"The rate of growth in our industry has been slowing down," a company executive says. "Survivors will have to be smart. Competition has forced us to start thinking strategically, and strategic thinking requires competent managers."

The second step was the employment of a corporate Director of Training and Development. His responsibility, this executive says, is to "assure a stream of competent managers—heads of groups, divisions and business units, and of managers reporting directly to them."

Training operations have long been present at a number of the firm's operating units, though at none of its groups or divisions. The corporate director sees a role for himself in "sending content messages" to these units and organizing a collaborative effort "to define respective audiences, to make sure learning is appropriate to each audience, and to see that programs at different levels are congruent and mesh in content."

Enlarged Corporate Programs

Existing management-development programs have expanded in many surveyed companies during recent years, often with significant changes in the organizational arrangements under which they are conducted.

Borg-Warner

Borg-Warner established an Employee Development Center in the mid-1970's to conduct programs for supervisors and middle managers. Over the last few years, supervisory training was moved from the Center to the company's six operating units. More recently, a Director of Education and Training was appointed to undertake important new corporate functions. One of these was the development of an in-house educational program for the firm's top 250 executives. Second, the new function was to provide training and educational opportunities for high-potential managers throughout the company. Third, supportive materials, direction and consultation were to be provided to other company units, some of them with long-standing training programs. "We will pilot some programs for our groups", the Director of Education and Training says. "If the programs meet the needs of the units, they will take or customize them." The corporate unit is also to be a "clearinghouse" for ideas, experiences and exchange of information. Fourth, special courses, seminars or workshops—such as one conducted for engineers and manufacturing operations managers on the "just-in-time" concept—are developed as needed. The new unit, in addition, has taken over responsibility for existing programs for middle-level managers.

Warner-Lambert

A new corporate Director of Organization and Career Development, who had been responsible for human resources development at two of the company's divisions, has been charged since 1984 with integrating that activity at Warner-Lambert.

Training and development is now only one part of the department's work, she says. It includes responsibility for corporate-level personnel—1,200 executives, managers, supervisors, independent contributors, and support staff. The unit will also maintain a consulting relationship with field trainers, creating a training network and providing train-the-trainer services in such subjects as how to do needs analysis and develop programs.

The second function of the department, its director says, is planning. "It maintains all documentation and records relating to succession plans for senior managers, as well as

for high-potential individuals, for women, and for minorities. It does human-resources research, maintaining and analyzing data on turnover and intracompany transfers. It monitors compliance with company standards and expectations for performance appraisal. In short, it's a responsibility that requires a lot of computer work and a lot of liaison."

A Diversified Manufacturing Company

A major expansion of management-education occurred in 1981 at a diversified manufacturing firm when a training manager was replaced by a Director of Human Resources Development, and a company "university" was conceived. Designed mainly for middle-level managers, this venture is built around a curriculum of seven core programs, in such subjects as problem solving and decision making, communications, financial analysis, and use of the computer. An outside faculty is employed, affording the company both expertise and, at present levels of scheduling, economy. The firm's Director of Human Resources and Development says: "We send our faculty people around the world, with the result that they get to know the company better than most other employees." Registration and other administrative matters, as well as monitoring and evaluation, are all taken care of by the corporate unit, but operations are charged for their participation.

Efforts are made to bring together managers of different business units at these company courses. The same executive says: "We are a highly diversified and decentralized company, and one of my responsibilities is to get people from different parts of the company to know and trust each other so that our various operations will work better together. Our program does a lot to accomplish this."

Merging Two Training Systems: Allied and Bendix

The rate of U.S. business mergers and acquisitions may not be increasing in recent years, but much larger firms tend to be involved, and the mergers pose issues of policy and practice, as well as of organization. As in the case of Allied Corporation and Bendix, each partner is likely to have its own training department. Skills-training departments at Bendix, for example, were profit centers and charged using units for their services; Allied offered programs on a "space-allocation basis." Bendix policy was to rely mainly on outside contract staff, while company employees conducted most of Allied's skills training.

Following the merger, such issues were dealt with through meetings of functional specialists of the two companies. An Allied executive explains: "The senior training people met, outlined to each other what they did and how they operated, and tried to work out an agreement as to what should be done in the future. Their conclusions, which called for corporate-level integration and a single set of programs, were submitted to and approved by a corporate-merger task force."

Changes in the Corporate Department Role

Although the scope of the corporate training department's responsibility for program development and delivery varies greatly from one company to another, certain trends are suggested by this study. One is toward a greater role for that unit in designing courses for use or adaptation by field units—a tendency stimulated by the growing use of video and various self-instructional technologies. Several participants say that they have recently extended program design services to foreign operations for the first time. A second trend is toward a wider corporate-department reach in its management-development activities: Inclusion in its plans and programs of more strata of managers from more distant parts of the organization. Finally, operating units are often being given more responsibility than in the past for serving those training needs that pertain only to their operations and personnel.

Responsibility for the training of first-line supervisors has moved up in some firms and down in others. Decisions in this grey area reflect a number of considerations. Five years ago, for example, a manufacturing firm transferred responsibility for the training of first-line supervisors from its divisions to Corporate Training, even as the company was becoming increasingly decentralized. The purpose, says its Director, was to establish companywide standards and bring consistency to managerial practice, "starting at the bottom of the pipeline."

In an energy company, however, responsibility for supervisory training has recently moved from the corporate training department to line units for reasons of economy. "Whether people came to central locations or trainers went to them, corporate-conducted training was expensive and time consuming," the training director notes.

The training director of a financial company reports that to achieve program consistency the firm shifted several years ago from complete decentralization to centralized development and decentralized delivery. He says: "We're eliminating the condition in which supervisors are expected to act in entirely different ways as they move from one part of the company to another, but have retained the credibility of our programs through the use of line presenters who introduce line-specific material." As still another training executive says: "The optimal centralization-decentralization arrangement from a cost and benefit standpoint is situation specific."

Service and Coordination

Services by corporate departments other than program design have been increasing, many participants report. One is information and advice—about training resources that may be available to them, the use of new technologies, and a variety of other matters. "Each of our plants and profit centers has its own training unit, but the prime functional expertise resides in the corporate organization," a consumer goods executive says. Some participants also report that corporate staff has become more active in, or has initiated, "train-the-

trainer" programs—instructing field personnel in how to assess training needs, and to develop and teach courses.

Corporate-department service to operating units and other staff is clearly growing in other ways as well. More and more often, these units are playing a coordinating and clearinghouse role. One training director comments: "The downside of decentralization is parochialism; sharing information is one way of countering this." Periodic meetings of corporate training staff and training personnel from field units are a common coordinative medium. Participants often comprise councils and meet quarterly or at other set intervals. Such arrangements have been inaugurated only in very recent years at a number of firms.

Olin Corporation decided several years ago that the corporate training department should give up a modest program design activity and devote itself to overseeing and coordinating the programs of eight operating groups. The Director of Human Resources Development, who receives detailed quarterly reports from these units, meets with their senior people three or four times a year. The first meeting is to review and appraise their respective plans, and the others to examine programs and consider how participants may help each other to deal with difficulties. This focus on coordination, he says, "has led to more cross-utilization of people and, therefore, a fuller use of our resources."

Described by one as "typical professional exchanges," participants use such meetings to share information, ideas and experiences. More and more often too, as a training director says, they provide an opportunity "to introduce the field people to certain corporate themes."

Meetings of training councils have also been used to clarify for managers the scope of corporate-sponsored programs as these have become mandatory in more companies, so as to avoid content duplication at lower levels. Their meetings have brought about a greater sharing of resources among participants, some surveyed executives report. One corporate training director says, for example, that he has become an exchange broker for personnel since inaugurating a council. Another reports that a field operation recently offered to train certain personnel of another unit: "This is a new kind of pulling together, and it is part of the culture we're trying to develop."

Headquarters training units are also devoting more effort to interpreting company strategies for operating units and helping them to respond appropriately in their programming. "Improving white-collar productivity is a top management priority and has become the focus of our efforts in working with the field," a financial company's training director says, for example.

Staff Support to Top Management

In helping to communicate and indoctrinate the organization with new goals and strategies, as discussed earlier, corporate staff has often found itself playing a new support role for top management. Some headquarters departments have also begun to monitor and oversee training activities companywide,—or to do so more systematically; to gather and convey intelligence about programs and costs to top policymakers; and to make judgements about program effectiveness.

Part of the Management Process: Xerox

The new integration of education and training with management processes, reported by a number of firms, is exemplified at Xerox. "Like many other U.S. companies," its Manager of Education and Training reports, "Xerox began in 1980 and 1981 to redefine its strategies to meet the challenges of worldwide competition. The company's chief executive initiated a training program for the firm's top 25 executives from its worldwide operating groups. The program was designed to communicate the company's strategies and objectives, and to examine how these strategies can be implemented. The faculity was made up of the presidents of the major divisions and the top corporate executives."

The head of Xerox's education and training department illustrates the process as follows: "The president of our Reprographics business unit in Webster, New York, would describe his unit's strategies and match them to the corporate strategy. In programs at lower levels managers also consider how to direct their human and financial resources to carry out tactics necessary to help implement the strategies. Here the trainer acts as a catalyst, helping participants see how their activities fit the corporate strategy and how the various group strategies fit together. It is a new role for training, which has more to do with the management process than with traditional education. It also helps to create a common, integrated, vision within the company. And it creates new opportunities and risks for training people who have to acquire a new level of knowledge about the fundamental objectives and strategies of the business."

Oversight

In more and more companies, corporate units are also setting education and training policy, and monitoring programs throughout the firm. Those companies that have moved toward greater oversight of field training activities have usually done so cautiously, mindful of their own principles of local autonomy and the prerogatives of profit-center management. Combustion Engineering's Director of Management and Organization Development says: "We are in the process of coming up with a policy that will set standards. With that, we will be doing ongoing monitoring—much like the corporate compensation department, benefits, and other functions. We have a responsibility to go out and assess the quality of what's being done—not in a punitive way, but to try to get everyone up to the highest professional levels they can attain."

Information System

Oversight requires information, which is gained by corporate training departments in various ways. A still small number of firms have begun to require standardized reports from operating units. The corporate training director of one of them reports that such requirements may generate organizational stress even when carefully prepared. "A year was devoted to convincing the heads of the various business segments that, even though they were responsible for what they taught and how they did it, they had enough in common to justify the effort we were asking them to make. Through a formal training document, field units reported each quarter on the training programs they had conducted, their length, the internal and external resources they had used, the travel and other costs that had been associated with them, and similar information. Formal training was defined as a program of at least eight hours. A standard unit of training was the number of hours of formal training divided by eight.

"We recognized that important qualitative differences between programs remained, but felt that at least we had a common denominator that gave us an order of magnitude. For the first time we could systematically track our training activity companywide.

"The corporate training and development department did not intervene directly in the training activities of lower-level units, but was responsible for formulating and policing adherence to policy on such matters as methods of selecting participants in training programs, and program charges. While the new reporting system was focused on finding out how much was being spent in the field for what, some appraisals were also made—some gross judgments as to whether segments seemed to be serving their training and development needs properly."

The program was abandoned in 1985, two years after it was begun. "It got to be too painful for the field," the corporate training director reports. "Managers were surprised to learn how much time and money was going into training: some thought it was too much. Disagreements festered over the accuracy and validity of the figures."

The Corporate Perspective: GE

Still another way in which corporate units may serve top management is described by GE's manager of management development operations: "From a corporate point of view, the role of strategic business units is to differentiate among people so that they become best at whatever the business of the group is—aircraft engines, lighting, plastics, and so on. They do this through selection, training and development that is specific to their particular marketplace, to the technologies involved, to the supplier networks they use, and even to their locations. Their job is to excel at building a culture within the corporate culture—an aircraft engine culture, for example. But as long as there is a corporate entity, another piece of work has to be done—the integration of training and development within a strategic frame. The corporate role is to bring people from throughout the organization together at appropriate moments, and at different stages, to ensure that what is done is more than the sum of the parts. The focus is on interchanges, interdependencies, synergy. EEO compliance, for example, is a corporate wide issue and has to be talked about. So are the company's principles on resource allocation, the strategic issues in technological development, and so on."

Finally, this executive notes, the benefits provided by closer links with field operations go in more than one direction. In developing the executive programs, members of his staff work with the training managers of operating units to get material for case studies, simulation exercises, and video tapes—involving them in the development of corporate materials.

Seeking the Proper Balance: Bank of America

Central control can bring economies at too high a cost, as even highly sophisticated managements have discovered. Bank of America, for example, learned by hard experience that a central control system for nonmanagerial training, instituted in 1982 to eliminate unnecessary training and achieve savings by coordinating the use of outside vendors, "pretty much brought training to its knees in the field," in the words of the bank's Director of Employee Development. Both the programs it developed and its responses to those proposed locally showed that the corporate department was too far from the field to understand its needs and to serve them appropriately and promptly, this executive says. A recent reorganization has moved responsibility for program development, and for some delivery, to the bank's four major divisions, each of which has had a considerable augmentation of staff through transfers from the corporate department.

The corporate unit is "completely out of the business of delivering programs," but has not abandoned other central functions: First, it sets policies and standards for training throughout the company, also advising operating units on issues of technology-based training. Second, aided by computerized files, it coordinates the use of outside vendors and monitors company experience with them. Third, the corporate department serves as an auxiliary program-design service, helping particularly in sales, marketing and credit training, but in other areas too, as needed by divisional units. Finally, it is instituting a computerized reporting system that will keep track of programs, costs and numbers of participants throughout the company.

Appendix

Demographic and Social Factors

Some questions posed in The Conference Board's survey—and explored further in the in-depth interviews—bore on the issues of whether, and in what ways, certain social and demographic conditions may have influenced corporate education and training activities during recent years. A summary of these findings follows:

Age Groups: As reported by the 184 companies taking part in the Board's survey, employees in all age groups were more broadly involved at the end of the period than at the beginning, though the increases are said to have been small in the majority of cases. The gain in the proportion of employees who participate each year in company-sponsored training and development is reported to be considerably greater in the 25-to-55-year age category than in either the older or younger ones, and is lowest for those 55 and over. The smaller increase for young employees is said to reflect lower rates of recruitment during the period by many companies and avoidance of training costs where possible. "We had a dry period when we were doing little hiring and went for people with experience when we did," one executive comments, for example. The continuing trend toward early retirement helps to explain the relatively small increase in training for older employees.

A counterpart to the early retirement trend is the reduction, already under way, in the numbers of yearly entrants into the work force—due to the sharply lower birthrates of the 1960's and a slowing in the growth rate of female participation in the work force. This will present no problem to executives at several of the companies surveyed because it is coinciding with "stabilization" of the firm's growth. Others do see it as affecting the availability of qualified personnel in certain categories—engineering, scientific, technical—and calling for stronger measures to attract and retain employees. But, they say, this will not significantly affect training and development.

Women and minorities: Female participation in training and development activities is reported to have increased considerably more than male participation—nonwhite much more than white. These differences, respondents say, are basically a reflection of greater representation of women and minorities in the employee population. Respondents from several companies commented that special programs for women and minorities that were introduced during the 1970's have been discontinued. One training director has resisted efforts by his company's EEO office to introduce special programs for blacks and hispanics on the principle—shared by many of his counterparts in other firms—that affirmative action in employment is sufficient to assure desired outcomes. But special efforts to promote the representation of women and minorities in training programs may still be made—sometimes by the training director. "If I find that they are not in a training session, I reach out for them," one says.

A food company's program to identify and develop high-potential people includes a separate pool of women, most in their early thirties. But "it is learning through experience rather than education that drives their development," a company executive says. The first training program ever conducted by a liquor firm was launched as part of the settlement of a law suit charging discrimination against women.

Education costs and student debt: High and rising tuition costs are a barrier to post-secondary education for many young people, while others, completing their schooling with substantial loan obligations, constitute what has been termed "an indentured generation." Training and development people do not see noticeable effects on their activities from these circumstances, though they are aware of pressures for change in personnel policies.

Some companies do see a trend toward increased participation in tuition-aid programs as a result. One reports that more employees than in the past—particularly women and minorities—are now pursuing degrees. The conclusions drawn from this phenomenon range between two extremes. "We're looking harder at what we pay for, tightening up loopholes, not being as open handed," a bank executive reports.

Another respondent, however, noting that the "maturation"of his company is reducing opportunity for promotion, says that management may liberalize the firm's tuition-aid programs "as one way of keeping employees satisfied." (The growing practice among many young people of working for a period of time between completing undergraduate work and beginning full time graduate studies in order to gain the experience that many graduate schools value and to earn needed money is described as a "serious factor in our turnover experience" by one respondent.)

Employees presently use tuition-aid programs to improve their job competencies, to prepare them for broader or different work responsibilities, and, sometimes, to pursue interests only tangentially—if at all—related to their work. The number taking part in these programs is small—estimated to be about 4 percent of those eligible in any year. Since employees use tuition aid to pursue subjects and skills that are either not taught in company training programs or for which they are not eligible, even a sizable increase in rates of participation will not affect training and development activities, it is said.

The connection between the company's training program and the loan obligations contracted by employees for prior education costs has even less bearing on the training and development activity than the opportunity available for using tuition-aid programs to pay for education, respondents say. "Deals may have to be made to bring needed specialists into the company at times", one comments. "Cash bonuses or other financial incentives may be offered. It's possible that people with loan obligations will be hired in this way—though more likely that experienced specialists will. But such arrangements have no implications for our training activities. There's nothing the training department can do to avert the need for them and nothing special for it to do once they're made."

Some companies have initiated, or stepped up, contributions to student loan and scholarship funds. But Conference Board studies show that these have not grown appreciably in total, even as educational grants of all kinds have been taking an increasing share of the corporate contributions dollar.

Work readiness of youth: Poor language and math skills among many young people coming into the work force continue to give a degree of trouble to many corporate employers. "The people who are getting out of high school can't spell, write or type any better than they used to," an insurance executive comments. Some survey participants comment in the same vein as a bank executive who says: "Unqualified people are not hired. The issue is not driving training and development nearly as much as it is the selection process." A human-resources executive reports that a gas and electric utility in a large city has experienced, a "ten-fold increase over the years in the number of people who have to be screened and tested to fill a job." The saving grace, he says, is that his company has been doing little hiring of late.

Many firms provide instruction in basic math and communications, and several require particularly unqualified employees to attend remedial courses in grammer or "English fundamentals" before they are permitted to take a basic course designed to correct writing deficiencies. But, by and large, such programs have been in place for many years, and there is no indication that the problem is felt to have changed significantly in severity. On the positive side, several respondents commented that younger workers are much more at ease with computers than older ones and know a good deal more about electronics.

Displaced Workers: More than a quarter of the respondents to the Board's questionnaire indicated that their firms are "involved in efforts or programs to retrain displaced workers—that is, employees whose jobs have been eliminated." In most cases, follow-up interviews showed that the retraining to date has been to qualify employees for other jobs in the company. It has often been possible, respondents say, to reassign many without such preparation. One human-resources-development vice president says: "The truth is that no thought is being given in our company to job obsolescence and how workers will be retrained. It is an issue that needs to be incorporated into our strategic plans." (An official at a large aerospace firm, which introduced a new manufacturing-control system based on computerized scheduling modules in order to qualify for a major subcontracting job, suggests that the training program connected with this effort averted displacement of over 1,000 employees.)

A number of companies participating in this study have provided counseling and outplacement services to displaced workers. Only one, however, reports any in-house retraining to qualify displaced workers for employment outside the firm, and that on a very modest scale—several secretaries taught the use of a word processor.

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☐ **Key Company Directory**—A guide to the overseas and domestic operations of 2,000 U.S. manufacturing corporations. Includes U.S. and foreign sales, locations of manufacturing facilities and nonmanufacturing activities (joint ventures, licensing, etc.), classification of products at the 3-digit SIC level, and number of U.S. manufacturing plants. Published yearly; updated; available on computer tape. **Non-Associate price: $540.00 Associate price: $450.00 ($300.00 to Educational Institutions).**

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☐ **Consumer Research Center**—Provides a current and comprehensive collection of information most frequently needed by marketers. **The Consumer Market Guide** is an easy-to-use source of statistics that will save you hours of research time. It is continuously updated with sections on population, marriages, births, households, children, education, labor force, occupation, employment, earnings, income, expenditures, housing, retailing, advertising, prices, production, miscellaneous. You also receive **A Marketer's Guide to Discretionary Income**, a joint study by the Consumer Research Center and the U.S. Bureau of the Census, which gives you an in-depth profile of the up-scale market; **Consumer Patterns**—gives you the most detailed item-by-item report available on how the American family spends its money. You also get a continuous series of in-depth reports on the distribution of income by consumer characteristics. With this information you can target your market scientifically. The Center's forecast series—**Projections**—will help you develop a sharper competitive edge in the fast-changing market place of the '80s, and beyond. **The Consumer Confidence Index** reports each month the consumer confidence of 5,000 families to help you time and implement your sales and marketing program. In addition you get 3 monthly reports to help you monitor consumer trends, help-wanted activity and eight major forecasters' projections of U.S. GNP, unemployment and inflation. **Annual Subscription: Non-Associate price: $1,950 Associate price: $1,500.**

(for additional information contact: Fabian Linden, Executive Director at (212) 759-0900).

4. Periodicals

☐ **Across The Board**—Produced as a monthly business magazine offering information, insights and projections on matters of current and future interest to managers in business and industry. **Annual Subscription: Non-Associate price: $30.00 Associate prices: $15.00.**

☐ **1985 Cumulative Index**—An annually revised index to The Conference Board's published research material, designed especially for the use of the Board's Associates. **Non-Associate price: $15.00 Associate price: Free.**